

WHAT IS CLAIMED IS:

1. A semiconductor package comprising:

a semiconductor substrate including a device
region on one surface thereof, and a connecting pad
5 electrically connected to the device region;

a support substrate formed on a side of one
surface of the semiconductor substrate;

an external electrode formed on a side of the
other surface of the semiconductor substrate; and

10 a connecting means, partially extended outside the
semiconductor substrate, for electrically connecting
the connecting pad and external electrode.

2. A package according to claim 1, wherein the
connecting means for electrically connecting the
15 connecting pad and external electrode includes a
distribution wire extended to the side of the other
surface of the semiconductor substrate.

3. A package according to claim 1, wherein the
connecting means includes a connecting wire having one
20 end portion connected to the connecting pad, and the
other end portion extended outside the semiconductor
substrate.

4. A package according to claim 3, wherein the
connecting wire includes a metal plating layer.

25 5. A package according to claim 3, wherein the
connecting wire includes a portion in close contact
with one surface of the semiconductor substrate.

6. A package according to claim 3, wherein the connecting wire is formed in close contact with the support substrate.

5 7. A package according to claim 3, which further comprises a projecting connecting electrode between the connecting pad and connecting wire.

8. A package according to claim 3, wherein an insulating film is formed between the other surface of the semiconductor substrate, which includes the
10 connecting wire extended outside the semiconductor substrate, and the distribution wire.

9. A package according to claim 2, wherein the connecting means includes a connecting wire formed on a surface of the support substrate, which opposes the
15 semiconductor substrate, and having one end portion connected to the connecting pad, and the other end portion extended outside the semiconductor substrate, and a columnar electrode formed on the other end portion of the connecting wire, and the distribution
20 wire is connected to the columnar electrode.

10. A package according to claim 9, wherein an insulating film is formed between the other surface of the semiconductor substrate, which includes the
25 connecting wire extended outside the semiconductor substrate and the columnar electrode, and the distribution wire.

11. A package according to claim 2, wherein the

external electrode is formed on a connecting pad
portion of the distribution wire, and an insulating
film is so formed as to cover the other surface of the
semiconductor substrate, which includes the distribu-
5 tion wire except for the external electrode.

12. A package according to claim 11, wherein the
external electrode has a columnar electrode, and a
solder ball is formed on the columnar external
electrode.

10 13. A package according to claim 1, wherein the
device region has a photoelectric conversion device
region.

14. A package according to claim 1, wherein the
support substrate has a glass substrate.

15 15. A package according to claim 14, wherein a
transparent adhesive layer or transparent encapsulating
layer is formed between the semiconductor substrate and
glass substrate.

16. A semiconductor package fabrication method
20 comprising:

forming a plurality of connecting wires on one
surface of a wafer-like semiconductor substrate
including, on one surface, a plurality of device
regions and a plurality of connecting pads each
25 connected to one of said plurality of device regions,
such that one end portion of each of said plurality of
connecting wires is connected to a corresponding one of

the connecting pads, and the other end portion of the connecting wire is extended outside the corresponding connecting pad;

5 placing a support substrate on a side of one surface of the semiconductor substrate, which includes said plurality of connecting wires;

exposing the other end portions of said plurality of connecting wires by removing, between the device regions, at least portions of the semiconductor substrate, which correspond to the other end portions of said plurality of connecting wires;

10 forming an external electrode electrically connected to the other end portion of each connecting wire; and

15 obtaining a plurality of semiconductor packages each including the semiconductor substrate with the external electrode, by cutting the support substrate between the device regions.

20 17. A method according to claim 16, which further comprises thinning the semiconductor substrate by polishing the other surface of the semiconductor substrate, before at least portions of the semiconductor substrate, which correspond to the other end portions of said plurality of connecting wires are removed between the device regions.

25 18. A semiconductor package fabrication method comprising:

forming a connecting wire and a columnar electrode formed on the connecting wire on one surface of a support substrate;

5 placing, on the support substrate, a semiconductor substrate including a device region on a surface opposite to the support substrate and a connecting electrode around the device region, and connecting the connecting electrode of each semiconductor substrate to the connecting wire formed on the corresponding support
10 substrate; and

forming an external electrode electrically connected to each columnar electrode.

19. A method according to claim 18, wherein after the semiconductor substrate is placed on the support
15 electrode, an insulating film is so formed as to cover the other surface of the semiconductor substrate, which includes the columnar electrode, and polishing the surface of the insulating film and the other surface of the semiconductor substrate, thereby thinning the
20 semiconductor substrate and exposing an upper surface of the columnar electrode.

20. A method according to claim 16, wherein the external electrode is formed on a distribution wire formed to be extended to a side of the other surface of
25 the semiconductor substrate.

21. A method according to claim 20, which further comprises forming the external electrode on a

connecting pad portion of the distribution wire, and forming an insulating film so as to cover the other surface of the semiconductor substrate, which includes the distribution wire except for the external
5 electrode.

22. A method according to claim 21, which further comprises forming a solder ball on the external electrode.

23. A method according to claim 16, wherein the
10 device region has a photoelectric conversion device region.

24. A method according to claim 16, wherein the support substrate has a glass substrate.

25. A method according to claim 24, which further
15 comprises forming a transparent adhesive layer or transparent encapsulating film between the semiconductor substrate and glass substrate.

26. A semiconductor package fabrication method comprising:

20 forming a plurality of connecting wires on one surface of a wafer-like semiconductor substrate including a device region and a plurality of connecting pads on one surface, such that one end portion of each of said plurality of connecting wires is connected to a
25 corresponding one of the connecting pads, and the other end portion of the connecting wire is extended outside the corresponding connecting pad;

placing a support substrate on a side of one surface of the semiconductor substrate, which includes said plurality of connecting wires;

5 exposing the other end portions of said plurality of connecting wires by removing, between the device regions, at least portions of the semiconductor substrate, which correspond to the other end portions of said plurality of connecting wires; and

10 forming an external electrode electrically connected to the other end portion of each connecting wire.

27. A method according to claim 26, wherein the support substrate has a transparent member.

15 28. A method according to claim 26, wherein the device region has a photoelectric conversion device region.